

Appl. No. : 10/043,647  
Filed : January 10, 2002

## REMARKS

Claims 1-16 are pending in this application.

### Specification

Line 3 of paragraph [0008] has been amended to refer to reference sign "51" rather than "S1." Applicants respectfully submit that this amendment overcomes the objection to the disclosure.

### Rejections Under 35 U.S.C. §102

The Examiner has rejected Claims 1, 8, and 9 under 35 U.S.C. §102(b) as being anticipated by Gadgil et al., U.S. Patent No. 5,780,860.

Applicants respectfully disagree that Claim 1, 8, and 9 are anticipated by Gadgil et al. Whereas Claims 1, 8, and 9 recite a flow rate of 8 liters per minute or less, 4 liters per minute or less, and 1-3 liters per minute, respectively, Gadgil et al. discloses only a maximum throughput of 15 liters per minute. See Gadgil et al. at Col. 12, lines 33-34. The Examiner's interpretation is that since the broader description of Gadgil et al. encompasses the smaller flow rates claimed in the present application, that the Gadgil et al. reference anticipates Claims 1, 8, and 9.

Applicants respectfully submit that such an interpretation is legally incorrect because a narrower claimed range within a broader disclosed range is not only novel but can also be nonobvious. See, e.g., Rohm & Haas Co. v. Crystal Chem Co., 557 F. Supp. 739, 806 (S.D. Tex. 1983), *Rev'd on other grounds sub nom. Rohm & Haas Co. v. Crystal Chem Co.*, 722 F.2d 1556 (Fed. Cir. 1983) (holding that "[a] subsequent species invention, even if unobvious and hence patentable over an earlier generic invention, does not render the generic invention unpatentable and does not require restriction of the literal scope of the claims to the generic invention so as to exclude the later species."); In re Ornitz, 376 F.2d 330, 336 (CCPA 1967) (stating that "it is not uncommon that a 'species' may be patentable . . . notwithstanding a prior art 'genus'"); In re

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Lemin, 332 F.2d 839, 841 (CCPA 1964) (“Generally speaking, there is nothing unobvious in choosing ‘some’ among ‘many’ indiscriminately . . . . Here, however, the choice is based on a discovery by Lemin that some compounds, falling within a prior art genus, have a special significance.”); Smith v. Hayashi, 209 USPQ 755 (PTO Bd. Int’f 1980) (stating that “under appropriate circumstances, a claim directed to a particular species may be patentable over a claim directed to a genus including that species.”). Applicants submit that Claims 1, 8, and 9 are therefore patentable over Gadgil et al.

### **Rejections Under 35 U.S.C. §103**

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Gadgil et al., U.S. Patent No. 7,780,860 in view of Kool et al., U.S. Patent No. 6,533,930. Claims 3 and 10-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Gadgil et al. The Examiner cites In re Reinhart, 531 F.2d 1048 (CCPA 1976) for the proposition that it is well known in the art to scale the size of components. Applicants respectfully submit that In re Reinhart does not imply that scaling cannot provide patentability. Rather, Applicants may overcome such a rejection by demonstrating that the claimed size of components has unique and unexpected advantages over the prior art.

In In re Woodruff, 919 F.2d 1575 (Fed. Cir. 1990), the Federal Circuit stated that “[t]he law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims . . . . [I]n such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” See also In re Geisler, 116 F.3d 1465, 1469-79 (Fed. Cir. 1997) (stating that an applicant may rebut *prima facie* obviousness of a claimed invention created by a prior art reference that discloses a range that touches the range recited in the claim by establishing that the claimed range has unexpected properties or that the reference “teaches away” from the claimed invention).

Applicants respectfully submit that under the law, the Examiner is lacking any suggestion or motivation to combine the disclosures of Gadgil et al. and Kool et al. While Kool et al. may teach a water treatment station for home or office, there is no suggestion to use the device of

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Gadgil et al. for such a purpose. The claimed invention employs UV radiation to disinfect household tap water for safety even though household tap water is generally safe to drink. Applicants submit that there is no motivation to make the Gadgil et al. device smaller and that Gadgil et al. actually teaches away from making the device disclosed in Gadgil et al. smaller. The Gadgil et al. device is directed to larger scale water treatment for providing safe drinking water for entire villages in developing countries. Rather, a smaller device would be much more expensive to manufacture and the volume of water treated by such a smaller device is too small to make economic sense without an unexpected advantage.

Applicants respectfully submit that such motivation is provided only by the present application. The inventors of the present invention have discovered that cryptosporidium can be killed by narrowband ultraviolet radiation, and that cryptosporidium is a problem for immunocompromised individuals, even in treated municipal water. Only by coming to these realizations does the invention (UV treatment of household tap water) become useful. Since the prior art does not recognize this utility, the prior art also does not provide a suggestion to scale down the Gadgil et al. apparatus or otherwise adapt it for household use.

Claims 4-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Gadgil et al. in view of Cryptosporidium Inactivation By Low Pressure UV in a Water Disinfection Device by Drescher, Greene, and Gadgil ("Drescher et al."). Applicants respectfully submit that the Drescher et al. article cannot be cited as prior art because the date of the article, January 12, 2000, is less than one year before the priority date of this application, January 11, 2001 (U.S. Provisional Application No. 60/261,120).

Applicants respectfully submit that Claims 2-7 and 10-16 are therefore patentable over the cited art for the reasons stated above.

### **Conclusion**

Applicants respectfully submit that all of the pending claims are patentably distinguishable over the prior art of record. The cited references, neither alone nor in combination, do not teach or suggest the claimed invention.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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